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More than money: Developing an integrative multi-factorial measure of entrepreneurial success

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Abstract

This article conceptualises and operationalizes 'subjective entrepreneurial success' in a manner which reflects the criteria employed by entrepreneurs, rather than those imposed by researchers. Using two studies, a first qualitative enquiry investigated success definitions using interviews with 185 German entrepreneurs; five factors emerged from their reports: *firm performance, workplace relationships, personal fulfilment, community impact, and personal financial rewards*. The second study developed a questionnaire, the Subjective Entrepreneurial Success–Importance Scale (SES-IS), to measure these five factors using a sample of 184 entrepreneurs. We provide evidence for the validity of the SES-IS, including establishing systematic relationships of SES-IS with objective indicators of firm success, annual income and entrepreneur satisfaction with life and financial situation. We also provide evidence for the cross-cultural invariance of SES-IS using a sample of Polish entrepreneurs. The quintessence of our studies being that subjective entrepreneurial success is a multi-factorial construct, i.e. entrepreneurs value various indicators of success with money as only one possible option.

Keywords

Subjective success, success criteria, entrepreneurs, scale validation, firm performance

Introduction

Regarding definitions of entrepreneurial success, literature grounded in rational economic theory suggests that in the first instance, financial gain is paramount (Parker, 2009). Hence, entrepreneurs evaluate success predominantly in financial terms; however, a focus solely on monetary rewards and related economic indicators of firm performance does not fully capture notions of success. So for instance, evidence suggests that entrepreneurs, on average, can expect to earn less than if in formal employment (Van Praag and Versloot, 2007). In addition, entrepreneurs may persist with underperforming firms for as long as individual non-monetary goals are considered satisfactory (DeTienne, Shepherd and De Castro, 2008). Yet paradoxically, in some circumstances profitable firms may be disbanded it they do not fulfil personal goals (Green, Welsh and Dehler, 2003). If the entrepreneur's subjective evaluation of success includes issues additional to, or other than, objective economic success indicators (Gimeno, Folta, Cooper and Woo, 1997; Reijonen and Komppula, 2007), then success cannot be simply equated with firm performance or with financial reward (Sarasvathy, Menon and Kuechle, 2013). Therefore, we need to develop a robust understanding of subjective indicators of entrepreneurial success.

Research on subjective entrepreneurial success is relatively scarce; it has not converged upon a common definition (Baron and Henry, 2011; Fisher, Maritz and Lobo, 2014; Gorgievski, Ascalon and Stephan, 2011). Accordingly, we define subjective entrepreneurial success as the individual understanding and assessment of the achievement of criteria that are personally important to the entrepreneur. The nature of such criteria remains underexplored with definitions of success generated and imposed by researchers. Economic indicators, such as firm size, revenue growth, sales and market expansion, continue to dominate the literature; subjective entrepreneurial success is seen as the evaluation of these indicators by the entrepreneur (Rauch and Frese, 2007; Richard, Devinney, Yip and Johnson,

2009). By contrast, we recognise other aspects of success beyond monetary returns or narrowly defined firm performance. It is acknowledged that entrepreneurs will also use other indicators such as personal learning and fulfilment, work life balance or contribution to the community (Jayawarna, Rouse and Kitching, 2011) as indicators of success. This resonates with recent economic research acknowledging that entrepreneurs seek different types of utility, including independence and satisfaction (Parker, 2009; Van Praag and Versloot, 2007).

Thus, there is recognition that entrepreneur evaluations of success go beyond economic returns. Yet, attempts at differentiating multiple success criteria - beyond the achievement of financial outcomes - are scarce; they include, for example, Gorgievski et al. (2011), who asked entrepreneurs to rank success criteria derived from the literature whilst Fisher et al. (2014) combined four items measuring different aspects of success into one overall index. Orser and Dyke (2009) applied a multi-dimensional approach to extract four aspects which they suggest capture relevant success criteria for entrepreneurs. These studies are an important departure point drawing attention to the fact that entrepreneurs use varied criteria of differing importance to evaluate success.

Furthermore, related research on different types of entrepreneurs (for example, female, minority, social; as well as micro-, family or high-growth firms) collectively suggest considerable heterogeneity in the motivations of entrepreneurs, ranging from self-realization, family security and employee relations to societal contribution (Gartner, Shaver and Gatewood, 2003; Edelman, Brush, Manolova and Greene, 2010; Jayawarna et al., 2011; Jennings and Brush, 2013; Lukes and Stephan, 2012; Walker and Brown, 2004). As noted below, entrepreneurial motivations are linked to success given that the fulfilling motivating factors indicate positive attainment and so, success; thus, entrepreneurial motivation research implies a more nuanced view of success factors.

Literature on entrepreneurial success is emerging - but underdeveloped (Fisher et al., 2014). Research on entrepreneurial motivation however, suggests a plethora of potential success criteria but is scattered over many studies (Stephan, Hart and Drews, 2015)], focusing on specific samples and motivating factors. Addressing this issue, this article contributes to debate by providing a more integrative, holistic picture of subjective entrepreneurial success factors when exploring entrepreneurial interpretations of success from a qualitative perspective. Using the evidence from this study, we provide novel evidence for the validity of these subjective success factors drawing upon a questionnaire operationalizing these criteria through a survey instrument. To our knowledge, there is no standardized measure enabling researchers to systematically assess subjective indicators of success in an integrative manner; thus, this article provides an important step towards filling this gap.

To address these issues, the article is structured as follows, first we outline a theoretical framework for the article; second,

Theoretical background

In spite of growing recognition that understanding subjective measures of success is crucial for the development of entrepreneurship research and practice (Dyke and Murphy, 2006; Fisher et al., 2014; Gorgievski et al., 2011), this concept is neither well defined nor extensively investigated. Existing research (Rauch and Frese, 2007) typically defines subjective success indicators narrowly; they are viewed as another measure of objective firm performance via entrepreneur estimates of such indicators (for example, sales or growth, Richard et al., 2009), or as their global rating of firm performance (for example, relative to competing firms, Lumpkin and Dess, 2001). In addition, subjective success is frequently assessed via self-report measures of satisfaction with firm performance, growth and status (Powell and Eddleston, 2008). These approaches implicitly treat subjective self-reported success as an indicator of one underlying common ‘success construct’ (Miller, Washburn

and Glick, 2013), rather than allowing for the possibility of a more complex conceptualization of subjective success consisting of multiple separate constructs. Whilst studies on subjective entrepreneurial success are scarce, a large body of literature on goals and motivations of entrepreneurs exists (Edelman et al., 2011; Jayawarna et al., 2011; Stephan et al., 2015). A search for 'subjective entrepreneurial success' in Google scholar resulted in only four hits, while a search for 'entrepreneurial goals' resulted in 2.280 and 'entrepreneurial motivation' in 4.170 hits [1]. Our definition of entrepreneurial success and its emphasis on subjectively important criteria links to the psychological concept of motivation and the closely related concepts of values and goals. These constructs reflect what is individually important to entrepreneurs and so, motivates action[2] (Frese, 2009; Schwartz, 2006). If entrepreneurial success is understood as the achievement of subjectively relevant criteria, research on entrepreneurial motivation can inform us about the nature of criteria that are valued by entrepreneurs and which constitute subjective success. Hence, we will briefly review research on entrepreneurial motivation to inform our understanding of potential success criteria.

Entrepreneurial motivation research often considers necessity versus opportunity conceptualizations of motivation, suggesting that people are either pushed into entrepreneurship when their environment does not offer attractive work alternatives, or are pulled into business by perceived opportunities (Block, Kohn, Miller and Ullrich, 2015). Such duality in entrepreneurial motivation might have consequences for success criteria held by entrepreneurs; whilst some may strive for employment and financial security, others may value independence, personal development and implementing ideas.

Other research on entrepreneurial motivation recognizes that motivations can be more complex and multi-dimensional. Such research offers first, varying numbers of dimensions of entrepreneurial motives such as self-realization, financial success, roles,

recognition and independence (Birley and Westhead 1994; Carter et al., 2003;Stephan et al., 2015; second, contrasts two dimensions of success between different types of entrepreneurs (such as social versus commercial, male versus female, family versus non-family entrepreneurs, (Chell and Baines, 1998; Lukes and Stephan, 2012; Olson, Zuiker, Danes, Stafford, Heck and Duncan, 2003) or third, differentiates various clusters (typologies or profiles) of entrepreneurs based on configurations of motives such as 'tax avoiders', 'reluctant', 'prestige', 'subsistence', or 'hedonistic' entrepreneurs (Birley and Westhead, 1994; Jaouen and Lasch, 2015; Jayawarna et al., 2011).

The most commonly identified dimensions of motivation may be summarized as follows: autonomy and independence (Birley and Westhead, 1994; Jayawarna et al., 2011; Reynolds and Curtin, 2008): self-realization and personal development (Benzing and Chu, 2009; Carter et al., 2003; Jayawarna et al., 2011): seeking achievement, challenge and demonstrating performance (Edelman et al., 2011; Reynolds and Curtin, 2008): monetary incentives as well as status and social recognition (Benzing and Chu, 2009; Carter et al., 2003): personal and family security (Chen and Elston, 2013; Robichaud, MacGraw and Roger, 2001): relationships with employees and stakeholders (Jayawarna et al., 2011; Gorgievski et al., 2011) and finally, creating social value and helping others (Gorgievski et al., 2011; Lukes and Stephan, 2012). Stephan et al., (2015) arrive at a similar summary in their systematic evidence review.

Based on such multi-dimensional approaches to entrepreneurial motivation, we expect that success criteria may also be multi-dimensional. Indeed, subjective assessments of entrepreneurial success suggest multiple criteria with underlying structures. For instance, Orser and Dyke (2009) propose that subjective entrepreneurial success is a multi-dimensional construct drawing upon market acceptance (commercial success criteria), professional autonomy (self-fulfilment), work-life balance, and financial outcomes. Further

empirical support for the multidimensionality of success was outlined by Gorgievski et al. (2011) who found that person-oriented and business-oriented dimensions underlie the rank-order of 10 success criteria. By contrast, a study by Fisher and colleagues (2014) reveal a one-dimensional structure of entrepreneurial success based on four items differentiating individual and business indicators.

Although these studies inform us about possible success criteria held by entrepreneurs, they typically do not (Gorgievski et al., 2011) or only in a very limited way (Fisher et al., 2014) analyse how entrepreneurs understand success and thereby, may introduce researcher bias by not accounting for respondent perspectives. They also suffer from measurement challenges by using potentially unreliable single items to represent success criteria (Fisher et al., 2014; Gorgievski et al., 2011) and omitting relevant steps in the validation process (Orser and Dyke, 2009).

In summary, the literatures on entrepreneurial motivation and subjective entrepreneurial success offer diverse views on the nature and number of possible dimensions of subjective entrepreneurial success. There is little agreement upon the specific dimensions and criteria of entrepreneurial success; so, building upon these literatures, we expect that indicators of subjective entrepreneurial success are likely to encompass multiple criteria to which entrepreneurs attach different values. The first stage of our research, Study One, focusses on exploring these multiple criteria from the entrepreneur perspective. Building upon this analysis, the second phase of the research, Study Two, introduces a novel measurement instrument capturing multi-dimensional indicators of entrepreneurial success providing evidence for its validity when drawing upon more general theorizing regarding how motives and values guide behaviour.

Study One: How do entrepreneurs define entrepreneurial success?

In our first study, we explore how entrepreneurs perceive and define success. Research on entrepreneurial success criteria already exists (Fisher et al., 2014; Gorgievski et al., 2011; Orser and Dyke, 2009)]; it could, thus, be tempting to employ a deductive approach to conceptualize subjective entrepreneurial success based upon existing criteria. However, asking respondents to rate a selected set of success indicators would impose preconceived researcher informed biases upon entrepreneurial success. We avoid this by inductively capturing how entrepreneurs conceptualise success. To the best of our knowledge, no other research has yet provided a comprehensive conceptualization of entrepreneurial success indicators based upon an in-depth, inductive evaluation of entrepreneur views and valuations of success. This leads to the following research question:

Research Question 1: How do entrepreneurs define success?

Research method

Sampling and participants

Participants were 185 German entrepreneurs who founded, owned, and managed their firms on a daily basis[3] (Frese, 2009). The participants were sampled from business directories, the *Yellow Pages*, and private networks. Snowball sampling was used; this is an efficacious technique for studying rare or elite populations such as entrepreneurs (Emory and Cooper, 1991); participation rate was 40 percent. We included two qualitatively different industries to maximize differing, non-sector specific conceptualizations of success. Fifty two percent of the entrepreneurs operated in the information technology (IT) sector, focusing on software development and consulting. The remaining 48 percent operated in the service industry; namely, restaurants. The respondent mean age was 44 years (*SD*=8.67, ranging from 26 to 65, *Mdn*=43), 83 percent were men; they had been self-employed for about 13 years (*SD*=6.68, ranging from 4 to 37, *Mdn*=11 years), employed on average 17 employees

(*SD*=21.09, ranging from 1 to 210, *Mdn*=10) and 48 percent held a university degree. Firm age was on average 11 years (*SD*=6.16, ranging from 3 to 44 years, *Mdn*=10 years).

Measures

We conducted face-to-face interviews between 2007 and 2008. The interviews were conducted and transcribed in German, using standardized manuals into which any irregularities during the interviews were noted (Mayring, 2003). All interviewers had undergone intensive interview training. We chose in-depth, face-to-face interviews to encourage participants to give detailed and elaborate answers to the question: 'What is your personal definition of entrepreneurial success? (What is success for you?)'. The interviewers noted all answers verbatim and recorded socio-demographic variables including age, gender, education, years of self-employment, and firm characteristics (firm age, industry sector, number of employees).

Statistical analyses

Thematic content analysis was performed on the transcribed verbatim success definitions. We employed a bottom-up strategy allowing for the development of novel theory directly from the responses and minimizing the introduction of bias by researchers (Mayring, 2003). The answers were analysed inductively by sorting through them iteratively, creating categories or themes that closely reflected their content. Categories had to be precise and non-overlapping, relevant to the concept of entrepreneurial success and on a comparable abstraction level. Researchers trained in using these criteria worked through the data systematically. To establish the reliability of the developed category system, an independent rater, who was blind to the data, coded 20 randomly selected interviews. Inter-rater reliability computed with coefficient V_2 (Wirtz and Caspar, 2002) at the level of the 14 sub-categories was highly satisfactory (V_2 = 72.85 percent).

Results

Entrepreneur definitions of success

The inductively developed category system consists of 14 success criteria that cluster into five main factors representing the following facets of entrepreneurial success, rank–ordered by the frequency with which respondents mentioned them (Table 1): *firm performance*, *workplace relationships*, *personal fulfilment*, *community impact*, and *personal financial rewards.*

[insert Table 1.]

Firm performance. This factor includes success criteria related to firm economic performance. First is *any kind of growth,* comprising: increases in sales, revenues, profits and employee growth. Examples are: "Success is employee and revenue growth"; "Success is firm monetary growth". The second, *firm stability,* refers to the continuous positive development of the firm (e.g. "Success means long-term stability"). The third, *position in the market,* refers to the acceptance of products and services among customers and the market position of the firm compared to rivals. Fourth, *firm survival* captures "the long-term safeguarding of the firm's continued existence". Overall, *firm performance* integrates different facets of performance as well as criteria ranging from minimal (survival) to maximal success (growth).

Workplace relationships. This factor captures success definitions related to relationships with stakeholders within and outside the firm. The first, *employees and co-owner satisfaction,* represents strong relationships with employees and co-owners, and a positive working climate in the firm. Examples are "Success means for me a smoothly working team"; "Harmonious cooperation of employees is characteristic for success". The second, *employment security,* reflects entrepreneurial responsibility towards employees and their careers and providing stable employment. Examples are "Success is when you can retain your employees in your firm"; "Success means providing good prospects for your

employees". The third criterion, *customer satisfaction and loyalty*, includes positive relationships with clients as well as their loyalty to and satisfaction with the products and services a firm provides. Examples are: "A successful firm is one that can foresee client wishes and meet those wishes"; "Positive feedback from your customers concerning products and services accounts for success".

Personal fulfilment. This factor encompasses personal aspects of success. First, *goals and challenges* include achieving self-determined goals and striving for personal freedom and autonomy. Examples are: "Success is when I am independent in how I define my goals for the future" and "When I reach my goals, I will consider myself successful". Second, *personal satisfaction* refers to fulfilling intrinsic entrepreneurial goals. It also includes the degree of happiness associated with the job and work engagement. Examples are "For me, success is to have fun at work" and "Success is to be completely absorbed in my job, to feel energized". Third, *creativity and innovation* consists of the opportunity to develop new ideas, to implement one's concepts, and to be innovative, e.g. "You are successful if you can implement your own good ideas". Fourth, *free time and health* is made up of aspects such as work-life balance, flexible working hours, and well-being. Examples are "Success means having leisure time outside of work"; "Entrepreneurial success is balance between work and family". Overall *personal fulfilment* refers to job resources that typically relate positively to intrinsic motivation and job satisfaction.

Community impact. This factor includes *firm reputation* and *firm continuity.* The first aspect refers to a positive image of the firm in the market and approval by customers. Examples are: "For me, success is recognition in the city" and "Positive firm image means success". *Firm continuity* refers to the desire to pass the firm on to the next generation. For instance, "For me, success means the firm will continue into the next generation". It also reflects the wish of entrepreneurs that the firm continues to operate.

Personal financial rewards. This factor captures the desire for high income, i.e. extrinsic rewards. Examples are: "You are successful if the firm provides high financial profits and you can be rich" and "Your income matters for success".

IT entrepreneurs and those operating restaurants provided comparable definitions of success. Thus, we did not develop separate category systems for each industry sector. The relative frequencies of success definitions were similar with the exception that IT entrepreneurs mentioned *customer satisfaction and loyalty* significantly less and *employment security* significantly more frequently than restaurant entrepreneurs (compare right hand columns in Table 1).

Overall, entrepreneurs defined success by referring simultaneously to various criteria, pointing to a multi-factorial underlying structure of success. At the same time, success criteria were mentioned with varying frequencies, suggesting that entrepreneurs may value success criteria differently.

Study Two: The development and preliminary validation of a multi-factorial Subjective Entrepreneurial Success- Importance Scale (SES-IS)

The main objectives of this study were to develop an instrument to measure subjective entrepreneurial success, to provide insight into the underlying structure (dimensionality) of subjective entrepreneurial success, as well as to establish first evidence for the validity of the instrument. We call this instrument the Subjective Entrepreneurial Success-Importance Scale (SES-IS), as it measures the extent to which entrepreneurs value different success criteria.
We designed SES-IS to capture a range of criteria identified in Study One and expect the success criteria to cluster into similar factors.
We followed the conventional steps in scale developed (DeVellis, 2011). First, based on the success definitions given by the entrepreneurs in the initial study, we developed a large pool

of items to represent all five success factors with each item demonstrating a clear link with only one factor. Second, all items with overlap and double-barrelling were deleted. Third, after preliminary scale revision and modification, items were tested for face validity; i.e. ten experts (five academics and five entrepreneurs) assessed the measure. Based on their feedback, we added two new items that had not been mentioned by entrepreneurs in Study One ('environmentally friendly firm' and 'firm social contribution'), and deleted the item 'personal satisfaction', because it constitutes a rather unspecific meta-criterion that has the character of an outcome variable resulting from attaining important success criteria. This step helped us to ensure that success criteria were comprehensively captured in the scale, including those that may only be relevant for a minority of entrepreneurs. The SES-IS we administered included 36 items. The Appendix presents the items and the development steps.

Hypothesis 1: Subjective entrepreneurial success comprises of five underlying factors: firm performance, workplace relationships, personal fulfilment, community impact and personal financial rewards.

Research into cross-cultural entrepreneurship indicates differences in motives and values of entrepreneurs (see Hayton, George and Zahra, 2002). Consequently, the concept of subjective entrepreneurial success and its underlying structure may also differ. Accordingly, we endeavoured to replicate the structure of SES-IS in an independent sample of Polish entrepreneurs, to offer novel evidence for cross-cultural equivalence. To demonstrate cross-cultural equivalence, it is critical to focus upon nations with cultural differences thus, the selection of countries is arguably less important.

Although Germany and Poland are geographically co-located, they belong to separate cultural clusters (Germanic Europe vs. Eastern Europe Cluster; House, Hanges, Javidan, Dorfman and Gupta, 2004), exhibiting significant differences in national values. Gender egalitarianism and humane orientation are more highly valued in Germany compared to

Poland (4.9 vs. 4.5; 5.5 vs. 5.3 respectively), while institutional and in-group collectivism, power distance, uncertainty avoidance and future orientation are more highly valued in Poland as compared to Germany (5.5 vs. 4.0; 5.7 vs. 5.2; 3.1 vs. 2.5; 4.7 vs. 3.3; 5.2 vs. 4.9 respectively, House et al., 2004)[4]. These differences may have implications for how strongly entrepreneurs value success criteria however, they do not imply that subjective entrepreneurial success is differently structured and understood in the two countries. For instance, large international value studies such as those conducted by the GLOBE project (House et al., 2004) or by Schwartz (2012) demonstrate similar underlying dimensionality of value importance ratings across cultures. Therefore, we expect that the underlying structure of success criteria in the SES-IS will be comparable. That is, we expect to support the cross-cultural robustness of the SES-IS in the Polish sample.

Hypothesis 2: The structure of the subjective entrepreneurial success scale (SES-IS) can be replicated in a Polish sample.

To provide further support for the validity of the SES-IS, we also investigated the relationships between subjective entrepreneurial success (i.e. scores on SES-IS subscales) and theoretically related constructs (cf. Cronbach and Meehl, 1955) in the German sample. We expect that the importance entrepreneurs attach to specific success criteria will relate to the actual attainment of matching success indicators. This is because people put effort into obtaining outcomes that are important to them, as has repeatedly been shown in more general research on goals and values as drivers of action (Frese, 2009; Locke and Latham, 2002; Roccas and Sagiv, 2010; Schwartz, 2006). In other words, success criteria that are important to the entrepreneur (e.g. growth), will direct their attention and effort toward activities that increase the likelihood of achieving outcomes congruent with these criteria (e.g. developing a growth plan, securing additional finance;Frese, 2009).

Based on this logic, we propose that valuing *firm performance* relates positively to

achieving objective firm-level success indicators (i.e. firm turnover). In addition, we expect valuing *personal fulfilment* and *workplace relationships* to relate positively to life satisfaction. For instance, research demonstrates that life satisfaction results from making progress toward attaining personal goals (Greguras and Diefendorff, 2010; Verbruggen and Sels, 2010) and experiencing autonomy (Rau, 2006). Similarly, research demonstrates that supportive work environments and especially, supportive co-workers, increase life satisfaction (Bowling, Eschleman and Wang, 2010). Therefore:

Hypothesis 3a: The importance attached to firm performance, personal fulfilment and workplace relationships (as measured through SES-IS subscales) relates positively to outcomes matching these factors (objective firm success, life satisfaction).

For the factor *personal financial rewards*, we expect different correlation patterns with related criteria. We hypothesize that the importance of *personal financial rewards* will relate negatively to matching individual-level entrepreneurial success indicators, i.e. annual income and satisfaction with their financial situation. Research on values emphasizes the specific impact that economic threat has on valuing material well-being and money in particular (the so-called relative deprivation effect). This suggests that the importance of material and monetary values is upgraded in times of economic hardship (Bruner and Goodman, 1947; Schwartz, 2006). So, entrepreneurs whose financial rewards are threatened, by poor firm performance for example, are more likely to emphasize the importance of personal financial rewards:

Hypothesis 3b: The importance attached to personal financial rewards (as measured through the SES-IS subscale) relates negatively to outcomes matching this factor (entrepreneur annual income, satisfaction with financial situation).

The age of the entrepreneur may be another important correlate of subjective success. It has been found that career prospects and high income are especially valued by younger

people who have not yet acquired material goods and related status (Warr, 2008). Conversely, increasing age is associated with a value shift away from extrinsic, towards intrinsic and generous motives, so helping other people and contributing to society (Kooij, De Lange, Jansen, Kanfer and Dikkers, 2011; Lang and Carstensen, 2002),. This shift seems to be triggered by an age-related prioritization of social goals and transmission to others in face of limited future time perspective (Kooij et al., 2011). Gorgievski et al., (2011) found that older entrepreneurs attach lower importance to profits and financial rewards. Collectively, the evidence on shifting value priorities with age suggests that the importance of success criteria may change:

Hypothesis 4: Entrepreneurs' age relates positively to the importance attributed to community impact and negatively to personal financial rewards.

Research method

Sampling and participants

Data was collected in 2008 in Germany and in 2009 in Poland. Entrepreneurs were invited by telephone and email. In Germany we used a combined sampling strategy; we recruited entrepreneurs from social networks and online platforms, i.e. Xing, LinkedIn, or AIESEC, entrepreneurs' associations, chambers of commerce (response rate at 10.34 percent) and also, the *Yellow Pages,* randomly selecting every twentieth name in each of the 16 German states (cf. Dillman, 2000) (response rate 12.77 percent). In Poland we contacted all potential participants by telephone (response rate 20 percent). We used hard copy and online questionnaires in both countries finding no significant differences in the study variables due to the method of data collection; these results are available upon request.

A total of 184 German entrepreneurs completed our survey with less than three percent missing data[3]. Entrepreneurs were on average 45 years old (*SD*=9.90, ranging from 22 to 72, *Mdn*=45 years), married (87 percent), 57 percent had a university degree. Men

made up 75 percent of the sample, 63 percent were founders of the firms that they currently owned and managed. Firms were on average 23 years old (*SD*=30.52, ranging from less than one year to 182 years, *Mdn*=14 years)[5] and had 22 employees (*SD*=43.36, ranging from zero to 100, *Mdn*=10). They operated in the following sectors: construction (41 percent), innovative technologies and electronics industry (19 percent), services (27 percent), and retail (14 percent).

A total of 101 Polish entrepreneurs completed the survey[3]. Entrepreneurs were on average 38 years old (*SD*=10.68, ranging from 22 to 72, *Mdn*=35 years), married (63 percent), 67 percent had a university degree. Men made up 53.5 percent of the sample. All respondents were founders of the firms that they currently owned and managed. They employed on average nine employees, but 16 percent had none (*SD*=20.28, ranging from zero to 180, *Mdn*=3.5 employees). Firms operated in construction (4 percent), innovative technologies and electronics industry (22 percent), services (67 percent), retail (4 percent), and transportation (4 percent).

Measures

In addition to the demographic variables, such as *gender*, *age*, *education* and *industry sector,* the following study variables were included. Subjective success was measured with the *Subjective Entrepreneurial Success Scale (SES-IS),* composed of five main subjective success factors drawing upon the structure of success obtained in Study One: *firm performance*, *workplace relationships*, *personal fulfilment*, *community impact* and *personal financial rewards*. The SES-IS instruction was: 'Please indicate on the scale below how important the following aspects are for you?' Entrepreneurs rated success criteria on a 5-point Likert scale from 1 'not important at all' to 5 'absolutely important'.

With regard to criterion measures, *objective firm success* was assessed as turnover

over the previous 12 months. We log-transformed this variable to obtain a normal distribution (firm revenue ranged from -20 percent to + 200 percent).

Entrepreneur *life satisfaction* was measured with five items based on the German General Health survey asking about satisfaction with free time, health, family, relationships with friends and relatives as well as general life satisfaction (Cronbach's Alpha α=.83). The response format was a 7-point Kunin-Faces scale (Kunin, 1955) ranging from 1 'very sad, unsatisfied' to 7 'very happy'.

Entrepreneurs were asked about *annual income* which ranged from 1000 to 350.000 Euros. We deleted extreme values above 200.000 Euros per year based on an outlier analysis and we log-transformed annual income to obtain a normal distribution. Entrepreneur s*atisfaction with financial situation* was measured with two items from the German General Health Survey asking about satisfaction with income and their overall financial situation (Bellach, Knopf and Thefeld, 1998). A sample item was 'How satisfied are you with your income?' (Cronbach's Alpha α=.93).

Results

Item statistical analyses and exploratory factor analyses

We conducted item-level analyses within the German sample and deleted ten items based on low item-total correlations, high kurtosis and high item difficulties (see Appendix for details on the items removed at this step). The remaining 26 items were used in an exploratory factor analysis (EFA) with principal axis factoring (PAF) and promax rotation, as recommended by Hair et al (2013) to develop new constructs. This model explained 46 percent of the variance. The EFA revealed the hypothesized five-factor structure: 'firm performance', 'workplace relationships', 'personal fulfilment', 'community impact' and 'personal financial

rewards'. Based on the EFA, we deleted three items because of substantial cross-loadings (see the Appendix).

Confirmatory factor analyses

In the next step, we conducted confirmatory factor analysis (maximum likelihood estimation) using AMOS (Arbuckle, 2005) to examine the factorial validity of the hypothesized five-factor structure with 23 items. The model fit was poor at *CFI* .845, *RMSEA* .072, $Chi^2_{(222\ df)}$=433.535, p<.001. Based on modification indices, six more items were deleted. Confirmatory factor analysis showed that the hypothesized model consisting of five interrelated first order factors (Figure 1) fitted the data well in the German sample: $Chi^2_{(109\ df)}$=158.60, p<.001, *CFI*=.94 and *RMSEA*=.05. To determine whether the five-factor conceptualization is indeed the most appropriate model, we tested alternative models including a model in which five first-order factors loaded on a second-order factor *subjective entrepreneurial success* and a model in which all items loaded directly on the first-order factor *subjective entrepreneurial success.* Further we tested three and four-factor models combining items that empirically showed relatively strong correlations and that could theoretically be seen as forming one factor. All alternative models showed poorer fit to the data (Table 2).

[insert Figure 1 and Table 2.]

We examined the internal consistency reliability as well as the convergent and discriminant validity of the SES-IS (Table 3). We computed Cronbach's Alpha (α), composite reliability (CR), the average variance extracted (AVE), the maximum shared variance (MSV) and the average shared squared variance (ASV). Cronbach's Alpha ranged between .65 and .75, while (CR) exceed the recommended threshold of .60 (Bagozzi and Yi, 1988, p. 82), supporting high internal consistency for all five factors. All item factor loadings were well above the recommended .40 threshold and CR was higher than AVE, supporting the convergent validity of SES-IS subscales (Hair et al., 2013). The AVE was slightly below the

recommended .50 threshold (Fornell and Larcker, 1981), but both MSV and ASV were lower than AVE for all five factors, thus, we concluded that there is evidence for the discriminant validity of SES-IS (Hair, Black, Babin and Anderson, 2010).

[insert Table 3.]

To summarize, Hypothesis 1 is supported. The best fitting model corresponds to the assumed five-factor structure of subjective entrepreneurial success (Figure 1).

Replication of the SES-IS factorial structure in a Polish sample

To investigate the cross-cultural equivalence of the SES-IS, we tested whether we could replicate the structure of the SES-IS obtained in the German sample in the Polish sample. Specifically, we tested whether the factor structure (configural invariance), the factor loadings (metric invariance) and the item intercepts (scalar invariance) might differ significantly, which would indicate lack of equivalence. We followed the procedures outlined by Byrne (2013). Table 4 presents fit indices of the measurement equivalence tests for the five success factors across the German and the Polish sample using a multi-group CFA.

[insert Table 4.]

The results provide evidence for full configural invariance, meaning that the underlying five-factor structure is the same in both cultures (see Table 4, *M1*). When testing for metric invariance by constraining the factor-loadings of all items to be equal across both samples, the model fit deteriorated significantly (Table 4, *M2*). Only the subscales *firm performance* and *personal fulfilment* showed full metric invariance (Table 4, *M2.1* and *M2.3*), while the subscales *community impact* and *personal financial rewards* were partially metric invariant (Table 4, *M2.4.1* and *M2.5.1*). For *community impact*, the item 'firm social contribution' loaded substantially higher in the Polish than in the German sample (Figure 1). For the subscale *personal financial rewards* the item 'ability to afford a lot' had a higher

loading in the Polish sample (Figure 1). The subscale *workplace relationships* showed no metric invariance, i.e. the model fit for this subscale deteriorated significantly independently of which item was constrained across samples (*M2.2* in Table 4).

Next, we tested the scalar invariance of the subscales *firm performance, personal fulfilment* and *personal financial rewards*. This tested whether cross-national differences in the item means reflect differences in the means of the underlying latent constructs rather than item bias. The subscale *personal financial rewards* (*M3.5* in the Table 4) showed full scalar invariance. However, the subscales *firm performance* and *personal fulfilment* showed only partial scalar invariance. For *firm performance,* only the intercept of the item 'turnover/sales' and for the subscale *personal fulfilment* the intercepts of the items 'own decision-making' and 'personal development' reflected the latent factor means in a similar way across samples.

Taken together the invariance tests suggest partial support for Hypothesis 2, according to which the structure of SES-IS can be replicated in a Polish sample. The factor loadings and item intercepts are partially equivalent, with the exception of *workplace relationships*, which show neither metric nor scalar invariance. Although testing mean differences between the Polish and German samples was not the focus of our study, we observed that the mean values for three of five factors composing SES-IS differed across samples (Table 3).

Preliminary criterion-related validity of the SES-IS

Using the German sample, we assessed first, evidence for the criterion-related validity of the SES-IS by examining (Pearson) correlations of the five subjective entrepreneurial success factors with outcomes matching these factors (Hypothesis 3a, 3b, 4). In line with Hypothesis 3a, *firm performance* was significantly positively related to turnover (r=.16, p<.05, N=178)[5]-an objective indicator of firm success. *Personal fulfilment* was significantly positively related to life satisfaction (r=.19, p <.001, N=184), as was the success factor *workplace relationships* (r=.15, p <.05, N=184). In line with Hypothesis 3b,

personal financial rewards was negatively related to annual income (r=-.17, p<.05, N =152)[6] and to satisfaction with their financial situation (r=-.18, p<.05, N=184). This means that entrepreneurs who valued financial rewards highly reported a lower annual income and were less satisfied with their financial situation.

As expected in Hypothesis 4, the age of the entrepreneur was positively related to the importance attributed to *community impact* (r=.16, p<.05, N=184) and negatively to the importance attributed to *personal financial rewards* (r=-.19, p<.001, N=184). Thus, as hypothesized younger entrepreneurs valued *personal financial rewards* more whilst older entrepreneurs appreciated giving back to the community to a greater extent (see Gorgievski et al., 2011).

Additional explorative analyses showed few associations between the importance attached to the five SES-IS factors and demographic variables. Similar to Gorgievski et al. (2011), we found no significant relations with gender and education. There was only one significant correlation with industry sector in the German sample. Entrepreneurs in the IT sector attached lower importance to *community impact*. These results are available upon request.

Discussion

Using a mixed-methods design, this research developed an integrative conceptualization of subjective entrepreneurial success. First, a qualitative bottom-up approach allowed us to capture a holistic conceptualization of subjective entrepreneurial success firmly grounded in the views and understandings of success by entrepreneurs themselves. Second, a systematic, quantitative scale development study was performed, resulting in a multi-factorial instrument measuring subjective entrepreneurial success, the SES-IS. We find that entrepreneurial success is ‘more than money’. Entrepreneurs hold multi-facetted views of success structured

along five factors: *firm performance*, *workplace relationships*, *personal fulfilment*, *community impact* and *personal financial rewards.*

Our research advances the literature on entrepreneurial success in several ways. A key contribution lies is providing a holistic perspective on subjective entrepreneurial success to overcome dichotomies such as those visible in past research (Block et al., 2015; Jayawarna et al., 2011; Lukes and Stephan, 2012)emphasizing, for example, social vs. commercial, and male vs. female entrepreneurship. Thus, it ensures greater integration across the different subfields of entrepreneurship (for example, minority, female, social entrepreneurship). Indeed, we did not find any evidence supporting trade-offs amongst success factors implicitly assumed in previous research emphasizing dichotomies. None of the five entrepreneurial success factors were negatively correlated in our study. Our findings support emerging research on complementarities rather than trade-offs between social and commercial strategies for traditional entrepreneurs (Mickiewicz et al.,2014).

Our multi-dimensional conceptualization of entrepreneurial success also aligns with calls in recent general management research to adapt a so-called 'separate constructs approach' for assessing organizational performance (Miller et al., 2013). As Miller et al. (2013) highlight, advances in theorizing about firm performance require greater specificity and alignment between theory building (conceptualization of success and hypotheses) and empirical analyses (operationalization of success and statistical analyses). Such alignment increases the accuracy of predictions and prevents underestimation of relationships (Wittmann, 1988). The multidimensional conceptualization of entrepreneurial success in the SES-IS enables future research to attain more precision in theorizing and research on entrepreneurial performance. An example based on our results would be that instead of assuming that success becomes less important with age, we theorized and found that the importance of specific success factors changes with age (from *financial rewards* to

community impact).

Our multi-dimensional conceptualization of entrepreneurial success also enables greater contextualization of firm performance – and so, links to recent calls for attention to context in entrepreneurship research (Welter, 2011; Zahra and Wright, 2011; Zahra, Wright and Abdelgawad, 2014). As Richard et al. (2009, p. 725) conclude in their review of the organizational performance literature: ’Measurement of performance must take into account heterogeneity of environments, strategies, and management practices … we are making a quantum leap of faith in assuming that our measures relate to what the firm is seeking to achieve.’ This article provides examples of the importance of such contextualization. Specifically, we found evidence that the importance attached to specific success factors varies with heterogeneity in industry sectors and national environments (Germany vs. Poland); even though the overall understanding of success was similar in both countries (i.e. cross-cultural equivalence of the SES-IS).

Overall, we see our study as an important stepping stone enabling future research to engage in more refined theorizing about entrepreneurial success. We embedded our conceptualization of subjective entrepreneurial success in more general research on goals, motivations and values as drivers of action (Frese, 2009; Locke and Latham, 2002; Schwartz, 2006). We encourage future research to continue along this avenue; for instance, approaches such as self-determination theory (Ryan and Deci, 2000) or values theory (Schwartz, 2006) may enable a deeper understanding of the nature of these qualitatively different success factors. These theoretical lenses can be useful to generate predictions about the consequences of pursuing different success factors. For instance, *firm performance* and *personal financial rewards* could be seen to relate to extrinsic motivations while *personal fulfilment*, *workplace relationships* and *community impact* may relate to intrinsic motivations (personal growth and meaningful relationships with others), and for both motivations, different associations to

performance and well-being have been documented in past research (Ryan and Deci, 2000). The success factors captured in SES-IS call for more *multi-level* theoretical approaches differentiating explicitly between the success of the firm and the entrepreneur (see Sarasvathy et al., 2013).

Finally, our work adds to existing research suggesting the need to reconsider the returns on being an entrepreneur. *Personal financial rewards* – emphasized in original economic theorizing on entrepreneurs – are, at best, of secondary importance. In Study One, this factor was among the least frequently reported, while entrepreneurs in Study Two attributed more importance to *workplace relationships* and *personal fulfilment* than to *personal financial rewards*. These findings replicate results of past research using different methodologies and conducted in different national contexts (Gorgievski et al., 2011; Lukes and Stephan, 2012; Ray and Trupin, 1989; Walker and Brown, 2004) and emphasize that the popular opinion of entrepreneurs as predominantly seeking monetary rewards needs to be revised. Moreover, our findings point to the intriguing possibility that the stereotypical view of entrepreneurs as primarily striving to attain monetary gain may partly be based on observations of entrepreneurs who struggle to create positive economic returns from their businesses (Van Praag and Versloot, 2007). Specifically, we found those entrepreneurs with lower annual income and those who were less satisfied with their financial situation to be the ones who valued *personal financial rewards* the most. These relationships are in line with a relative deprivation effect, i.e. the increasing importance of material values in times of economic hardship (Bruner and Goodman, 1947; Schwartz, 2006).

Based on these findings, we may expect that entrepreneurs will upgrade the importance of financial returns in times of difficult economic conditions, such as recessions. This has implications for the evaluations of entrepreneurial success in light of the sustained downturn in the Eurozone triggered by the 2008 financial crisis (note that we collected data

in Germany immediately before the recession in 2008, whilst Poland was largely unaffected by the recession and showed no negative GDP growth during this period). Future research could explore how long-lasting such adaptations of success definitions to macroeconomic conditions are, i.e. whether they result in temporary shifts or in permanent changes to how entrepreneurs define success. For instance, it has been shown that growth ambitions of entrepreneurs in the UK changed from high growth desire in the beginning of the 2008 recession to more realistic views during the crisis (Cowling et al., 2014), but it is unknown whether other, for example social success criteria, might have grown in importance.

Limitations and avenues for future research

Our work has several limitations the first of which relates to our sample. Entrepreneurs in our studies were somewhat younger, better educated and their firms had more employees as compared to nationally representative samples of entrepreneurs drawn from the European Social Survey. Additionally, in Study One, women were underrepresented and sampling was restricted to two, qualitatively different industry sectors. We also encountered a low response rate which is a typical challenge in studies of entrepreneurs and senior managers (Cycyota and Harrison, 2002). Although we have taken measures to avoid biases, such as including feedback rounds with experts and entrepreneurs from other industries, our descriptive results on the average and relative importance of success criteria may not capture all relevant success criteria.

A second limitation is that the reliability of some SES-IS subscales was moderate. We aimed to develop a parsimonious instrument; yet, there is a trade-off between parsimony of a measure and high reliability. New scales often suffer from this problem, especially when the number of items is low (Cortina, 1993). To improve the reliability of the SES-IS scales future studies might consider including additional items.

Third, this study provides novel evidence for the cross-cultural equivalence of four of five SES-IS subscales. The factor *workplace relationships* showed no cross-cultural equivalence, which may reflect country differences in power distance and collectivism (House et al., 2004). Future research could investigate further the cross-cultural validity of the SES-IS in other countries.

We hope future research can develop the theoretical foundations of the SES-IS. We drew on general theorizing and evidence that connects goals, motivations and values to behaviour. Building on more elaborate theorizing would help establish stronger evidence for the convergent, discriminant and predictive validity of the SES-IS. It would also be interesting to learn more about the consequences of striving for different success criteria simultaneously – both for the entrepreneur in terms of personal satisfaction and well-being and for the firm in terms of social and economic performance, innovation and management practices. Tests could be conducted to establish whether striving for multiple criteria may be mutually reinforcing or potentially conflicting. Whilst we found no negative relationships regarding the extent to which success factors were valued, such negative associations may emerge once entrepreneurs begin to act. Actions geared towards achieving one success factor might be at odds with achieving another (Schwartz, 2006). Research on entrepreneurial failure may use the multi-factorial concept of subjective entrepreneurial success to gain more insights into failure and its underlying mechanisms.

Future research could also explore the determinants of success criteria, so how entrepreneurs come to value certain success criteria over others. Apart from values (Gorgievski et al., 2011), role models, education, personality as well as broader economic and social environments may play a role. It would be helpful to employ longitudinal designs to test whether the relative emphasis entrepreneurs place on various aspects of entrepreneurial success change over time and what might cause such changes (e.g. firm life cycle, policy

changes, economic crisis, change in family situation). Our findings regarding age, financial situation and concerns pertaining to recessionary pressures provide glimpses of potential changes in success criteria. Such research can shed light on the flexibility and resilience of entrepreneurs to adapt to different situations (Bullough and Renko, 2013).

While the focus of our article was the individual, entrepreneurs do not make decisions in a social vacuum; thus, there is a need to explore to what extent co-owners, financiers, customers and boards may influence the success definitions of lead entrepreneurs and with what consequences. With regard to venture teams, it would seem that members should hold compatible understandings of entrepreneurial success to prevent conflict and ensure efficient striving for common goals.

Finally, future studies could use the SES-IS scale to profile various types of entrepreneurs based on the success criteria that they value and strive to achieve. Such research could move beyond the simple differentiation that men value financial success while women value workplace relationships and shed further light on the notion that women may value multiple success criteria simultaneously while men may be more focused on a smaller number of criteria (Manolova, Brush, Edelman, and Shaver, 2012; Sullivan and Meek, 2012; Tlaiss, 2013).

Practical implications

Our findings highlight the heterogeneity of success definitions amongst entrepreneurs. This has implications for attracting people into entrepreneurship so for instance, educational and media programmes could present entrepreneurship as a means to achieve a range of success criteria. This allows a broader range of individuals to see entrepreneurship as a potential career path which does not just generate income but also, has a positive impact upon communities. Such a varied presentation of entrepreneurship, adapted

to different target groups (e.g. millennials, generation Z, women, university graduates) might also improve the societal legitimacy of entrepreneurship and public attitudes towards entrepreneurs, as it goes beyond the stereotypical view of entrepreneurs as rent-seeking individuals who focus solely on maximizing personal monetary returns.

SES-IS can be applied to identify potential (successful) entrepreneurs and to assess and monitor success criteria that entrepreneurs (or entrepreneurial teams) view as important. To avoid frustration and firm discontinuation, entrepreneurs could be informed about how to effectively accomplish multiple success criteria. They could learn and share strategies around balancing, for instance, *firm growth* with *personal fulfilment*. In this regard, SES-IS would be helpful as an assessment instrument for developing targeted interventions. Such interventions would aim to reduce the gaps between the multiple criteria entrepreneurs may value, and their actual achievement. In regard to cross-cultural collaborations among entrepreneurs, the awareness of possible differences in the priorities given to certain success criteria may help to prevent conflicts.

Conclusion

The current research extends and advances previous research by providing a new definition of ‘subjective entrepreneurial success’ broader than many of those currently utilised in the entrepreneurship and management literatures. We developed a novel measurement instrument SES-IS, which systematically captures success criteria valued by different types of entrepreneurs. This has practical value from an educational, coaching and media perspective. Additionally, the SES-IS can be used to advance science, by facilitating contextualised investigations of entrepreneurial success from a holistic perspective, such as the study of complementarities versus trade-offs of striving for different success criteria simultaneously.

Notes

1. Search on Google scholar was conducted in February 2015.

2. Values, motivations and goals differ in their level of abstraction. Values refer to general life goals and are most abstract. Goals are the most specific constructs and motivations fall in between.

3. Compared to a population-representative sample of German (Study 1, Study 2) and Polish entrepreneurs (European Social Survey, 2008/2009), our respondents were younger (44, 45 years old vs. 52 and 38 vs. 51), better educated (48, 57 percent with a university degree, 35 and 67 vs. 11 percent with no degree), employed more employees (17, 22 vs. 4 and 9 vs. 1 employee). The gender distribution was dissimilar for Study One (83 vs. 70 percent male in the ESS) and similar for Study Two (75 percent male vs. 70, $Chi^2_{(1\ df)}$=1.51, p=.21 ns and 53.5 vs. 54, $Chi^2_{(1\ df)}$=.01, p<.90 ns)

4. The scores range from 7-high to 1-low, we report scores for dimensions where Poland and Germany differed significant (House et al., 2004).

5. Five firms existed on the market for less than 12 months. Sixteen companies existed on the market for more than 60 years.

6. Not all entrepreneurs disclosed information on objective success indicators (n=178 for turnover, n=152 for entrepreneur annual income).

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Appendix

Development of SES-IS Scale (Study 2)

Items
Firm performance
Firm profitability (e.g. high returns) [a]
Turnover/ sales [a]
Profit growth [a]
Employee growth [a e]
Increased market share (e.g. firm expansion) [a]
Firm survival (e.g. solvency, continuance) [a d]
Innovation (e.g. of new products, services, or production methods) [a d]
Outstripping direct rivals in the same industry sector [a e]
Workplace relationships
Working with capable contact persons (e.g. experts) [a d]
Strong customer relationships (e.g. positive firm image, positive attitude of your clients towards your business) [a]
Strong relationships with employees [a d]
Employee satisfaction [a]
Employee loyalty [a f]
Supportive firm culture (e.g. firm values and positive attitudes) [a]
Positive work climate [a d]
Personal fulfilment
Work-life balance (e.g. free time) [a]
Maintenance of private contacts (e.g. friends and memberships in associations) [a d]
Personal work flexibility [a]
Own decision-making [a]
Solving Complex Problems within the firm management [a f]
Challenging work [a f]
Personal satisfaction [a c]
Personal development [a]
New Job creation [a e]

Appendix continued

Preliminary Version of SES-IS based on Study 1	Development of SES-IS
Community impact	
Social responsibility for employees [a]	
Firm social contribution [b]	
Environmentally friendly firm e.g. recycling [b]	
Social recognition (e.g. good reputation) [a f]	
Job related reputation [a d]	
Firm continuity (e.g. opportunity to pass on to the following generation) [a d]	
Personal financial rewards	
Personal income growth [a]	
Personal financial security [a]	
Financial security in own future [a f]	
Ability to afford a lot [a]	
Protection of one's self-employment [a d]	
Family's financial security [a d]	
Possibility to retire early from active work life [a d]	

Note. N=184. **Bold** –items in final SES-IS version, [a] items derived from the Study 1. [b] items added following recommendations by experts. [c] item removed following expert recommendation. [d] items removed after first statistical item analyses (item difficulty, kurtosis, item-total correlations). [e] items removed after EFA. [f] items removed after CFA.

TABLE 1
Subjective Entrepreneurial Success – Category System (Study 1)

Number of participants (*N*) Number of success definitions (*N*)	Total (*185*) *(470)*			IT (*96*) *(233)*			Restaurants (*89*) *(237)*		
Five Factors Success Criteria	Frequency [a]	Relative Frequency [b] (percent)	Rank-order [c]	Frequency [a]	Relative Frequency [b] (percent)	Rank-order [c]	Frequency [a]	Relative Frequency [b] (percent)	Rank-order [c]
Firm performance	*170*	*91.89*		*91*			*79*		
Any kind of growth	82	44.32	1	45	46.88	1	37	41.57	2
Firm stability	54	29.19	3	25	26.04	3	29	32.58	3
Position in the market	19	10.27	8	13	13.54	6	6	6.74	9
Firm survival	15	8.11	11	8	8.33	9	7	7.86	8
Workplace relationships	*141*	*76.22*		*63*			*78*		
Employees and co-owner satisfaction	53	28.65	4	29	30.20	2	24	26.97	4
Employment security	15	8.11	11	13	13.54** [d]	6	2	2.25** [d]	11
Customer satisfaction and loyalty	73	39.46	2	21	21.88** [e]	5	52	58.42** [e]	1
Personal fulfilment	*111*	*60.00*		*60*			*51*		
Goals and challenges	44	23.78	5	21	21.88	5	23	25.84	5
Personal satisfaction	40	21.62	6	23	23.95	4	17	19.10	6
Creativity and innovation	18	9.73	9	12	12.50	7	6	6.24	9
Free time and health	9	4.86	12	4	4.17	11	5	5.62	10
Community impact	*31*	*16.76*		*13*			*18*		
Firm reputation	27	14.59	7	10	10.41	8	17	19.10	6
Firm continuity	4	2.16	13	3	3.13	12	1	1.12	12
Personal financial rewards	*17*	*9.19*	*10*	*6*	*6.22*	*10*	*11*	12.36	7

Note. *N*=185. [a] Entrepreneurs could give multiple success criteria [b] frequencies relative to the total number of entrepreneurs in the group. [c] Rank order based on relative frequency, rank 1 = most frequent success criteria; [d] significant differences between industry sectors: χ^2=13.67, *df*=1, *p*<.001. [e] significant differences between industry sectors: χ^2=33.58, *df*=1, *p*<.001, ** *p*<.001.

TABLE 2

Tests of Alternative Models for SES-IS (German Sample, Study 2)

Model Description	χ^2	***df***	$\Delta\chi$	Δdf	***CFI***	***RMSEA***
Final Model: 5-Factors	158.60**	109			.94	.050
Alternative models						
5-Factors: secondary factor 'subjective success'	234.46**	114	75.86**	5	.85	.076
1-Factor 'subjective success'	532.27**	119	373.67**	10	.49	.138
4-Factors: merged firm performance and personal financial rewards	226.12**	113	67.52**	4	.90	.074
4-Factors: merged workplace relationship and personal fulfilment	212.61**	113	54.01**	4	.90	.069
3-Factors: merged workplace relationships and personal fulfilment, as well as firm performance and personal financial rewards	273.78**	116	115.18**	7	.90	.086

Note. N=184, **p<.001, Comparative Fit Index (*CFI*), Root Mean Square Error of Approximation (*RMSEA*).

TABLE 3

Descriptive Statistics, Reliabilities, Correlations and Validity of SES-IS Subscales

Success Factor (SES-IS subscale)	*M*	*SD*	*α*	*CR*	*AVE*	*MSV*	*ASV*	Items (*N*)	1	2	3	4
Germany												
Firm performance [a]	3.80	.82	.75	0.74	0.44	0.09	0.02	4	-			
Workplace relationships	4.52	.50	.65	0.67	0.42	0.00	0.00	3	.06	-		
Personal fulfilment [a]	4.34	.53	.69	0.71	0.38	0.04	0.01	4	.26**	.47**	-	
Community impact	3.49	.84	.66	0.67	0.41	0.00	0.00	3	.18*	.38**	.26**	-
Personal financial rewards [a]	3.64	.80	.71	0.73	0.48	0.09	0.04	3	.47**	.04	.37**	.03
Poland												
Firm performance	4.20	.66	.64	0.75	0.46	0.26	0.15	4	-			
Workplace relationships	4.42	.77	.65	0.63	0.40	0.53	0.20	3	.35**	-		
Personal fulfilment	4.55	.43	.58	0.62	0.31	0.53	0.20	4	.29**	.20*	-	
Community impact	3.37	1.15	.75	0.82	0.60	0.26	0.18	3	.41**	.52**	.26**	-
Personal financial rewards	4.24	.69	.80	0.82	0.61	0.24	0.14	3	.31**	.25*	.35**	.21*

Note. ** $p<.001$, * $p<.05$. Germany (*n*=184), Poland (*n*=101). Composite Reliability (*CR*). Average Variance Extracted (*AVE*). Maximum Shared Variance (*MSV*). Average Shared Variance (*ASV*). [a] country mean differences significant at $p<.001$.

TABLE 4

Measurement Equivalence of the Five-factor Structure of SES-IS

Model	χ^2	***df***	$\Delta\chi$	Δdf	***CFI***	***RMSEA***
M1. Configural invariance	344.02	218			.90	.04
Metric invariance compared to configural invariance						
M2. Full metric invariance	378.91	230	34.89**	12	.89	.05
M2.1 firm performance	349.90	221	5.88 (ns)	3	.90	.04
M2.2 workplace relationships	357.40	220	13.38**	2	.90	.05
M2.3 personal fulfilment	347.10	221	3.08 (ns)	3	.90	.04
M2.4 community impact	350.70	220	6.68*	2	.90	.05
M2.5 personal financial rewards	350.40	220	6.38**	2	.90	.05
Partial metric invariance						
M2.4.1 community impact	347.70	219	3.68 (ns)	1	.90	.05
M2.5.1 personal financial rewards	347.70	219	3.68 (ns)	1	.90	.05
Scalar invariance compared to metric invariance						
M3.1 firm performance	356.40	222	6.5**	1	.90	.05
M3.3 personal fulfilment	351.22	222	4.12**	1	.90	.04
M3.5 personal financial rewards	353.00	221	2.6 (ns)	1	.90	.05
Partial scalar invariance						
M3.1.1 firm performance	459.20	220	-.07 (ns)	1	.90	.05
M3.3.1 personal fulfilment	349.10	220	2 (ns)	1	.90	.04

Note. ** p<.001, * p<.05. Germany (n=184), Poland (n=101).

FIGURE 1

Factorial Structure of the SES-IS

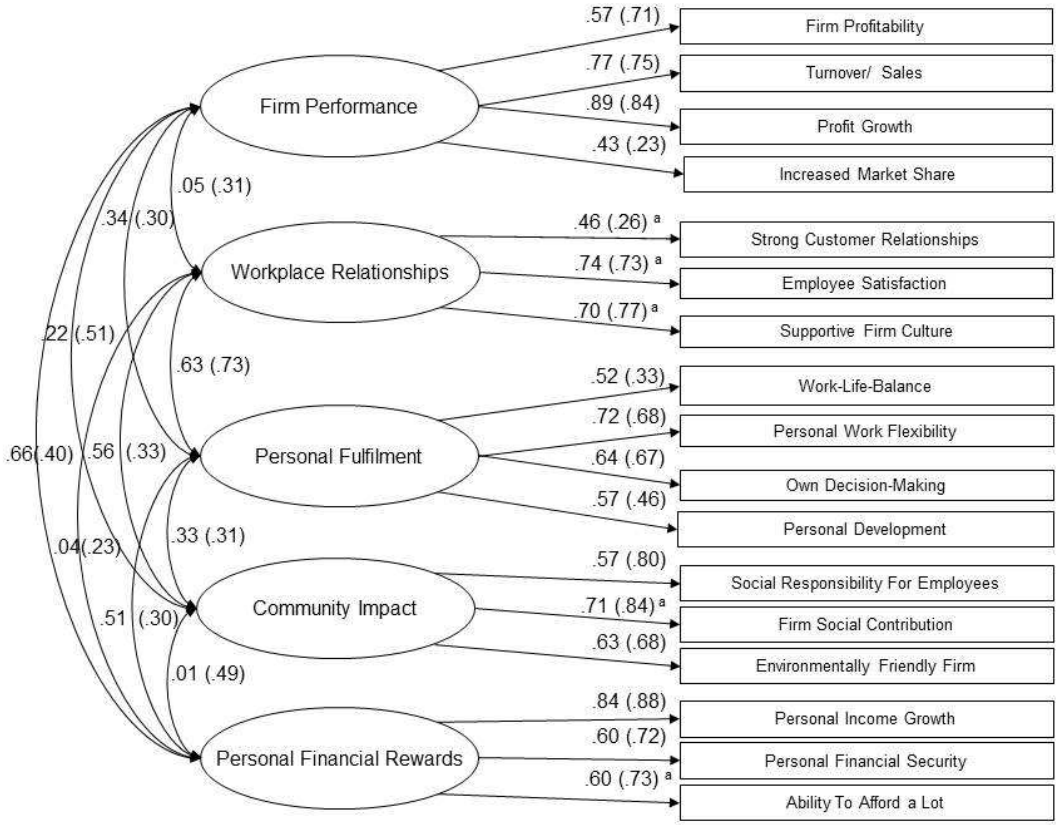

Figure caption: Standardized factor loadings and correlations are displayed. Values in brackets refer to the Polish sample (*n*=101); other values are for the German sample (*n*=184).

Note. [a] indicates significant differences in metric invariance across samples (see Table 4 and section cross-cultural validation of the SES-IS in a Polish sample). Sample difference test refer to the non-standardized loadings as standardized values are not directly comparable across samples.